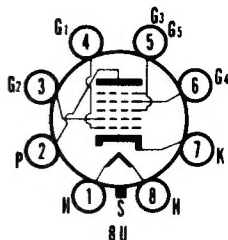


SYLVANIA TYPE 7A8 OCTODE CONVERTER



MECHANICAL DATA

Bulb.....	T-9, Outline 9-30
Base.....	Lock-in 8-Pin
Basing.....	8U
Mounting Position.....	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage.....	6.3 Volts
Heater Current.....	150 Ma
Maximum Heater-Cathode Voltage.....	90 Volts

DIRECT INTERELECTRODE CAPACITANCES (Shielded)¹

Grid No. 4 to Plate.....	0.15 μ mf	Max
Grid No. 4 to Grid No. 2.....	0.3 μ mf	Max
Grid No. 4 to Grid No. 1.....	0.15 μ mf	Max
Grid No. 1 to Grid No. 2.....	0.60 μ mf	
R F Input, Grid No. 4 to All.....	7.5 μ mf	
Osc. Output, Grid No. 2 to All Except Grid No. 1.....	3.4 μ mf	
Osc. Input, Grid No. 1 to All Except Grid No. 2.....	3.8 μ mf	
Mixer Output, Plate to All.....	9.0 μ mf	

MAXIMUM RATINGS (Design Center Values)

Plate Voltage.....	300 Volts
Grids No. 3 and 5 Supply Voltage.....	300 Volts
Grids No. 3 and 5 Voltage.....	100 Volts
Grid No. 2 Supply Voltage.....	300 Volts
Grid No. 2 Voltage.....	200 Volts
Plate Dissipation.....	1.0 Watt
Grids No. 3 and 5 Dissipation.....	0.3 Watt
Grid No. 2 Dissipation.....	0.75 Watt
Cathode Current.....	13.0 Ma
Positive Grid No. 4 Voltage.....	0 Volts

TYPICAL OPERATION

Plate Voltage.....	100	250 Volts
Grids No. 3 and 5 Voltage.....	75	100 Volts
Grid No. 4 Voltage (Signal Grid).....	-3.0	-3.0 Volts
Grid No. 2 Voltage (Osc. Anode).....	100	250 Volts ²
Grid No. 1 Resistor (Osc. Grid).....	50000	50000 Ohms
Plate Current.....	1.8	3.0 Ma
Grids No. 3 and 5 Current.....	2.7	3.2 Ma
Grid No. 2 Current.....	2.8	4.2 Ma
Grid No. 1 Current.....	0.2	0.4 Ma
Self Bias Resistor.....	400	280 Ohms
Plate Resistance.....	.65	.70 Megohm
Conversion Transconductance.....	375	550 μ mhos
Grid No. 4 Voltage for $G_c = 2 \mu$ mhos.....	-22.5	-30 Volts

CHARACTERISTICS

Oscillator, Non-oscillating Condition³

Grid No. 2 Current.....	10 Ma
Transconductance (Grid No. 1 to Grid No. 2).....	1600 μ mhos
Amplification Factor (Grid No. 1 to Grid No. 2).....	65

NOTES:

1. Shield No. 308 connected to cathode.
2. Applied through 20,000 ohm resistor for $E_{c2} = 250$ V.
3. Measurements taken with $E_b = 250$ volts; $E_{c2} = 180$ volts; $E_{c3} = 100$ Volts; $E_{c1} = 0$ volts.

APPLICATION

Sylvania Type 7A8 is a single-ended oscillator-mixer tube. The addition of a suppressor grid serves to increase the plate resistance for improved performance, particularly when operated at low plate supply voltages.

SYLVANIA TUBE TESTER SETTINGS

	A	B	C	D	E	F	G	Test or K
139/140	6.3	0		0	1	056	70	W
	6.3	0		0	2	45	93	X
219/220	6.3	1	8S	65	8	056X	2	7
	6.3	1	8	41	8	4U	3	7